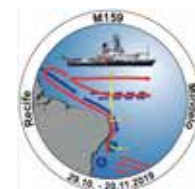




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(29.10. -20.11.2019)

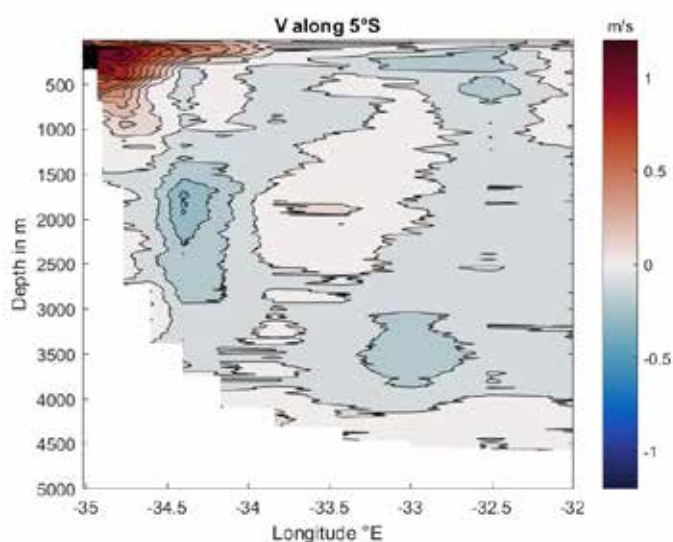


2. weekly report from 10. November 2019

This weeks work focused on the CTD section at 5°S, continuing the efforts of 12°S further north. We had ideal weather and sea conditions to conduct our measurements with a light breeze from southeast and very few showers.

Both sections, at 12°S and 5°S document the state of the warm North Brazil Undercurrent (NBUC) and the cold southward Deep Western Boundary Current (DWBC). Both currents are following the shelf break off the coast of Brazil and represent a central part of the Atlantic meridional overturning between the high northern latitudes and the Antarctic Circumpolar Current. In 2013 GEOMAR restarted it's moored observatories at these sections, which were studied in an earlier period (2000-2004), in order to document changes in the section's hydrography and strength and direction of the boundary currents within the context of global climate change.

At 5°S 14 CTD stations down to the bottom, with depths ranging from 300m to over 4600m were conducted. The collected IADCP data at 5°S features the NBUC at the subsurface and two cores of the DWBC.



IADCP section showing the southward flow in blue and northward flow in red. (M. Hundsdörfer)

In addition to one masters student from the University of Pernambuco in Recife we have two POGO fellows on ship. POGO stands for the Partnership for Observation of the Global Ocean and has the aim to improve the observations of the ocean through joint organization and planning of research cruises, sharing of oceanographic infrastructure and capacity building. For the capacity building and training POGO supported one student from

Argentina and one from Nigeria to join our cruise. An introductory lecture is held every morning for all cruise participants and the nearly daily sciences seminar in the evenings opens the possibility to hear and discuss about various topics in oceanography.



*Security drill with survival suits.
(photo: M. Visbeck)*

Additionally three computer scientists joined our cruise within the frame of two Helmholtz programs, the Digital Earth project and the MarDATA graduate school. Here they get the unique opportunity to work on site with ship based observational data. Both, MarDATA and Digital Earth aim to bring methods coming from modern computer sciences to the diverse data sets of observational oceanography.

On Thursday the third scientific part of our cruise started, measuring the meridionally along the 35°W section. It is the first time since 12 years ago that this sections is occupied through oceanographic measurements with bottom deep CTDs. This section passes through the zonal

currents of the equator. Today we left the southern hemisphere, crossing the equator and travelling towards in the direction of 5°N.

The mood on ship is excellent, the food wonderful and the collaboration with the captain and the crew fantastic.

With many regards from 0° South and 35° West on behalf of the cruise participants,

Patricia Handmann and Martin Visbeck

GEOMAR Helmholtz Centre for Ocean Research Kiel

